

Wisconsin's
Capacity Development Program
for
Public Drinking Water Systems
2011 Report to the Governor



Department of Natural Resources
Bureau of Drinking Water & Groundwater

TABLE OF CONTENTS

Executive Summary.....	1
1.0 Introduction	2
2.0 Capacity Development Program Overview	2
2.1 Capacity Development for New Public Drinking Water Systems.....	3
2.2 Capacity Development for Existing Public Drinking Water Systems.....	4
2.3 Measuring Success & Reporting	11
3.0 Efficacy of the Capacity Development Strategy	12
4.0 Progress Toward Improving the Technical, Managerial, and Financial Capacity of Public Water Systems	13
5.0 Conclusions	14
6.0 Definitions	15

EXECUTIVE SUMMARY

The 1996 amendments to the Safe Drinking Water Act (SDWA) required states develop a Capacity Development Program for public drinking water systems. The Department of Natural Resources (DNR), along with other state agencies, partners, and interested non-governmental organizations, implements this program in Wisconsin. The goal of this effort is to improve the ability of public drinking water systems to consistently provide safe drinking water by helping water system owners and operators improve technical, managerial, and financial capacity.

The Capacity Development Program continues to use a network of assistance efforts to provide support for our public drinking water system owners and operators. This network of people and their on-going activities become the tools in the process of improving the ability of public drinking water systems to provide safe drinking water. The following activities are some of the tools used for capacity development:

- DNR staff and contracted county health personnel conduct an average of approximately 2,700 sanitary survey inspections of public water systems per year in Wisconsin (based on 2008-2010 data);
- Contracted technical assistance providers make more than 900 circuit rider visits annually to places like mobile home parks, schools, and businesses;
- Approximately 3,500 operators watch over Wisconsin's community and non-transient non-community water systems. All of these operators must meet and maintain state certification requirements;
- On average the DNR reviews more than 800 engineering plans per year for such projects as new wells, water treatment systems, well facilities, water mains, and wellhead protection plans (based on 2008-2010 data);
- The Safe Drinking Water Loan Program (SDWLP) has provided approximately \$368 million dollars of principle forgiveness and loans to municipal community water systems since the beginning of the program in 1998 through state fiscal year 2010.

This document was compiled for the benefit of the Governor, all members of government, and the public, as required by section 1420(c)(3) of the SDWA. It reports on the Capacity Development Program strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state.

This report will be made available to the public on the DNR's website, in the Capacity Development section, and a press release will be issued to inform the public of its availability.

1.0 INTRODUCTION

The 1996 amendments to the SDWA required states to have a Capacity Development Program approved by the U.S. Environmental Protection Agency (EPA). The goal of this program is to help public drinking water system owners and operators, particularly small systems, improve their technical abilities, managerial skills, and financial viability to comply with the SDWA requirements.

Activities funded through the State Program Management set-aside to the states' Drinking Water State Revolving Fund (DWSRF) seek to coordinate technical assistance efforts of the DNR, other state agencies, and non-government partner organizations.

The following is the 2011 triennial status report on implementation of Wisconsin's Capacity Development Program. The report will focus on the efficacy of the strategy and progress toward improving the technical, managerial, and financial capacity of the states' public drinking water systems. Completing this report fulfills federal requirements and allows for the full set-aside dollars to be allotted through the States' DWSRF.

2.0 CAPACITY DEVELOPMENT PROGRAM OVERVIEW

The 1996 SDWA amendments include capacity development initiatives to increase the resources available to small public drinking water systems, which often have the most difficult time complying with federal and state regulations. These "small systems," such as schools, factories, and mobile home parks, often don't have specialized staff to operate and maintain their infrastructure. Providing drinking water is not typically their primary business. The most common barriers faced by small system owners and operators as they try to acquire and maintain capacity include:

- Lack of technical knowledge about state and federal requirements and how to meet them;
- Lack of access to money;
- Lack of financial planning and management; and
- Lack of affordable technologies to comply with existing and new technologies.

Below is a list of key areas where capacity development is used as a tool for encouragement and improvement of public drinking water systems in Wisconsin:

- Drinking water system infrastructure evaluation and improvement;
- Water resource (quality and quantity) evaluations;
- Cooperation between state agencies;
- Expanding operational and managerial expertise to non-municipal drinking water systems;
- Operator certification and training;

- Financial management and planning.

The Capacity Development Program is maintained through funds set-aside from the DWSRF authorized under the SDWA. A one-time request in the amount of \$400,000 was made in the Fiscal Year (FY) 1997/1998 *Safe Drinking Water Act Intended Use Plan*. At the end of State Fiscal Year (SFY) 2005 there was a \$38,286 balance of Capacity Development Program funds. Effective the start of SFY 2006, the balance was transferred to the State Program Management set-aside. The State Program Management set-aside has been used to cover Capacity Development Program set-aside needs incurred after SFY 2005.

The program is organized into a strategy for new public drinking water systems and a strategy for existing public drinking water systems. Each year the program coordinator provides an annual report to EPA Region V on the status of accomplishments. To date Wisconsin has satisfied all of the requirements for the program.

2.1 Capacity Development for New Public Drinking Water Systems

Before public drinking water systems of the state commence operation, a comprehensive attempt is made to ensure technical, managerial, and financial capacity is achieved. Wisconsin Administrative Code Chapter NR 810 Subchapter I requires capacity evaluations for all new community and nontransient noncommunity (NN) public water systems. This requirement became effective on September 1, 1999. Written guidance targeting technical, managerial, and financial aspects of operating a drinking water system is distributed to owners and operators of small public drinking water systems during the capacity evaluation process. A capacity certification is issued to the owner of a new public drinking water system when appropriate plans and the evaluation have been reviewed.

Capacity Development for New Municipal Community Drinking Water Systems

A capacity evaluation is required for all new municipal community (MC) drinking water systems. This type of drinking water system is owned by a city, town, or sanitary district. The evaluation is completed by the DNR as part of the system plan review process. Once the plans and capacity evaluation are approved, DNR staff send a plan approval letter and capacity certification to the owner.

Capacity Development for New Other-Than-Municipal Drinking Water Systems

A capacity evaluation is completed by DNR staff as part of the plan review process for new other-than-municipal (OTM) drinking water systems. This system type includes mobile home parks and condominium associations. Owners must fill out and sign DNR Form 3300-247 to provide DNR with system capacity information. The evaluation uses much of the information furnished in the drinking water system plan. Written guidance is given to the administrators of the system to help understand the technical, managerial, and financial responsibilities of owning a public drinking water system. Once the plan approval is granted and the capacity evaluation is reviewed, DNR staff send an approval letter and capacity certification to the system owner.

Capacity Development for New Nontransient Noncommunity Drinking Water Systems

Owners of new NN systems must complete DNR Form 3300-246. This type of system includes schools, day care centers, and factories. Written guidance is given to administrators of the system to help understand the technical, managerial, and financial responsibilities of owning a public drinking water system. The capacity evaluation process for new NN systems is divided into two groups, depending on plan review requirements and pumping capacity:

- Systems subject to DNR plan review (pumping capacity equal to or greater than 70 gallons per minute, as well as all schools): A capacity evaluation is completed as part of the plan review. Once the plan approval is granted and the evaluation is reviewed, DNR sends an approval letter and capacity certification to the system owner;
- Systems NOT subject to DNR plan review (pumping capacity less than 70 gallons per minute): A capacity evaluation is still performed. Owners send the completed capacity evaluation form (3300-246) to the Capacity Development Coordinator. Once the evaluation is reviewed by the DNR, an approval letter with capacity certification is sent to the system owner.

2.2 Capacity Development for Existing Public Drinking Water Systems

The DNR approach for capacity development at existing public drinking water systems emphasizes the importance of the entire public drinking water program in Wisconsin. The Capacity Development Program developed and submitted a strategy to EPA in August of 2000, to address technical, managerial, and financial capacity of existing public drinking water systems. The strategy is a guide for the state to assist existing systems. It also outlines proposed changes to the DNR's inspection and evaluation processes to include a capacity evaluation.

In the last eleven years the DNR has worked to modify its sanitary survey process to incorporate and integrate technical, managerial, and financial capacity development elements into the process. Sanitary surveys of water systems are essential to assuring safe drinking water on a continuing basis. Surveys are a mechanism to detect construction, maintenance, and operational deficiencies, before an unsafe water condition occurs. In cases where unsafe water occurs, the sanitary survey may be used to isolate the problem so that corrections can be made. By conducting surveys on a recurring cycle, new construction or system modifications can be checked for conformance with previous DNR approvals, and deterioration of facilities can also be evaluated, particularly if deterioration is more rapid than expected.

The EPA and the Association of State Drinking Water Administrators (ASDWA) developed a list of eight minimum elements to be reviewed during a sanitary survey. These elements, as identified in the *EPA/State Joint Guidance on Sanitary Surveys* and later required in EPA's Groundwater Rule, are evaluated during sanitary surveys. They are:

1. Source;
2. Treatment;
3. Distribution system;

4. Finished water storage;
5. Pumps/pump facilities and controls;
6. Monitoring/reporting/data verification;
7. Water system management/operations;
8. Operator compliance with state requirements.

The DNR uses a combination of document review and visual inspection to evaluate technical, managerial, and financial capacity. This process focuses less on data collection and more on the evaluation of a public drinking water system's ability to provide safe drinking water now and into the future. This approach is consistent with the capacity development philosophy. The format is structured to facilitate entry of the information electronically into the DNR's Drinking Water System (DWS) database. The information can be used to prioritize which systems have capacity deficiencies and may be in need of further assistance. The database can also be used to track problems systems face on a statewide basis. This information has been valuable for focusing technical assistance efforts, choosing continuing education course content, and may be valuable in the creation of "blanket" guidance sent to all public drinking water systems.

DNR's Capacity Development Coordinator, in conjunction with other Safe Drinking Water Program staff, prioritizes systems with capacity deficiencies on an annual, or more frequent basis. The prioritization process occurs in the fall of each year to coincide with other DNR drinking water activities, or as needed. Prioritization focuses on systems that are out of compliance with the SDWA requirements or that are on the verge of being out of compliance.

The sanitary survey process is regularly evaluated and updated to improve quality and consistency. DNR internal work groups of public drinking water staff have met many times in the last eleven years to work on revisions to the sanitary survey process in Wisconsin. The goal continues to be to create and maintain a standardized sanitary survey/capacity evaluation format for each type of public water system. Since the last triennial report:

- A work group revised the electronic sanitary survey tool for transient noncommunity (TN) systems. This was completed in 2009. This revised tool focused on assuring that the eight elements of sanitary surveys are evaluated in a consistent manner by both county and DNR staff and deficiencies are tracked in the DWS. It also standardizes the level of severity that deficiencies are assigned;
- Several work groups met in 2009 to evaluate and revise sanitary survey questions and standardize the level of severity assigned to common deficiencies observed during NN, OTM, & MC inspections;
- In 2009, a mobile sanitary survey system was developed for use with tablet PCs. This is intended to save inspectors time and improve their ability to access data from the DWS while in the field. A pilot project was also completed in 2010 that tested the effectiveness of this new system. The Capacity Development Coordinator then trained inspectors on this new technology and it became available for all staff.

Capacity Development Toolbox

Public drinking water systems in Wisconsin face a variety of challenges in their quest to provide safe drinking water at an affordable cost. However, there are many SDWA programs and activities that can be used to address the obstacles encountered by existing systems. These “tools” help systems acquire and/or enhance their technical, managerial, and financial capacity. Some tools can be targeted towards specific systems based on prioritization and capacity evaluation results. For instance, a system that does not have financial capacity may be offered additional, specific guidance on budgeting and long-term planning. Other tools are used broadly to address common problems that occur with systems statewide, regardless of their capacity development status. One example of this type of tool is the annual mailing of monitoring letters and schedules to all MC, OTM, and NN systems to help these systems plan and budget for upcoming water quality monitoring.

DNR Plan Review: Wisconsin Administrative Code Chapter NR 108 states that final plans and specifications must be reviewed and approved by the DNR prior to construction for all MC and OTM systems. Chapter NR 812 also requires plan approval for NN systems with a pumping capacity equal to or greater than 70 gallons per minute. This applies to new systems as well as improvements, extensions, and alterations to existing systems. DNR plan review provides the initial safeguard measure to strengthen a system’s ability to meet capacity and consistently supply safe drinking water. On average the DNR reviews more than 800 plans per year for such projects as new wells, treatment systems, well facilities, water mains, and wellhead protection plans.

Sanitary Surveys (all public systems): Sanitary surveys provide a comprehensive and accurate record of the components of public drinking water systems, assess the operating conditions and adequacy of the system, and determine if past recommendations have been implemented effectively. DNR public drinking water staff and county inspectors personally assist the owners and operators with issues related to their public drinking water systems during sanitary surveys. On average, approximately 2,700 sanitary surveys are completed each year in Wisconsin. DNR staff will continue to use sanitary surveys to evaluate systems, point out deficiencies, and make recommendations to help systems meet capacity.

DNR/County Contracts for TN Systems: The DNR oversees contracts with county health department staff to conduct sanitary surveys, and monitor nitrate and coliform bacteria at approximately 5,800 TN systems in 43 counties each year. This partnership has proven successful for the following reasons:

- Monitoring and reporting violations in these counties are diminished;
- Maximum contaminant level violations are reduced due to the elimination of false positives from poor sampling technique;
- In addition to DNR requirements, many of these TN facilities are licensed by the Wisconsin Department of Health Services (DHS) and the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP). The majority of counties that are part of the contract are also agents for DHS and DATCP so the system owner sees only one county inspector instead of three different state inspectors.

SDWLP: Wisconsin is using part of its federal DWSRF allotment to provide low-interest loans to eligible MC systems. These loans, provided by the state's SDWLP, may be used for infrastructure improvements. Sixty-four financial assistance agreements (FAAs) (Table 1) were reached in FY 2008/SFY 2009 and FY 2009/SFY 2010. For FY 2009/SFY 2010, the State of Wisconsin received approximately \$37.75 million from the federal government associated with the American Recovery and Reinvestment Act of 2009 (ARRA). These funds were used for principle forgiveness along with SDWLP below-market rate loan. The total amount of principle forgiveness and loans provided to communities since the beginning of the program in 1998 through FY 2009/SFY 2010 is approximately \$368 million.

Table 1. Financial Assistance Agreements
FY 2008/SFY 2009 and FY 2009/SFY 2010

SFY	Local Governmental Unit	FAA Amount
2010	Algoma Sanitary District No.1	\$1,324,449
2010	City of Adams	\$900,937
2010	City of Altoona	\$490,327
2009	City of Ashland	\$417,988
2010	City of Chippewa Falls	\$2,940,500
2010	City of Colby	\$474,055
2010	City of Cumberland	\$2,401,220
2010	City of Darlington	\$516,588
2009	City of Delavan	\$2,739,708
2010	City of Fond du Lac	\$10,990,743
2009	City of Gillett	\$204,729
2010	City of Horicon	\$1,365,935
2010	City of Hurley	\$197,333
2010	City of Loyal	\$819,527
2010	City of Marinette	\$19,152,674
2009	City of Menasha	\$678,908
2010	City of Muskego	\$907,948
2010	City of Oak Creek	\$1,759,696
2010	City of Oconto Falls	\$1,918,407
2009	City of Oshkosh	\$7,287,777
2009	City of Park Falls	\$2,564,141
2009	City of Pittsville	\$987,655
2009	City of Prairie du Chien	\$1,760,799
2010	City of Reedsburg	\$770,327
2009	City of Rhineland	\$1,198,751
2009	City of Richland Center	\$1,644,767

SFY	Local Governmental Unit	FAA Amount
2010	City of Richland Center	\$87,166
2009	City of Sparta	\$1,229,543
2010	City of Stanley	\$1,810,082
2010	City of Stevens Point	\$2,837,260
2010	City of Stoughton – Utilities	\$1,227,502
2010	City of Two Rivers	\$1,003,014
2010	Glidden Sanitary District	\$175,754
2010	Greenville Sanitary District No. 1	\$2,438,295
2010	Holland Sanitary District No.1	\$233,437
2010	Village of Amherst	\$1,156,314
2009	Village of Arlington	\$469,723
2010	Village of Avoca	\$248,000
2010	Village of Blue River	\$462,194
2010	Village of Butternut	\$1,466,776
2010	Village of Cambridge	\$659,060
2010	Village of Cazenovia	\$657,596
2010	Village of Deerfield	\$1,080,941
2010	Village of Germantown	\$1,942,940
2009	Village of Highland	\$322,322
2010	Village of Lomira	\$1,063,630
2010	Village of Lyndon Station	\$1,217,276
2010	Village of Osceola	\$298,874
2009	Village of Rewey	\$123,713
2010	Village of Rib Lake	\$688,719
2010	Village of Rio	\$420,823
2010	Village of Sherwood	\$1,980,380
2010	Village of Suring	\$769,403
2010	Village of Trempealeau	\$2,834,962
2009	Village of Turtle Lake	\$625,824
2010	Village of Turtle Lake	\$1,383,992
2010	Village of Turtle Lake	421,449
2010	Village of Union Grove	\$1,304,350
2009	Village of Viola	\$399,454
2010	Village of West Baraboo	\$1,422,982
2009	Village of West Salem	\$3,058,893
2010	Village of Whitehall	\$3,451,980
2010	Village of Whiting	\$517,332
2010	Village of Withee	\$1,984,250
	TOTAL	\$109,892,094

Technical Assistance Contractors (OTM & NN): The DNR uses the EPA DWSRF Technical Assistance Set-Aside Grant to fund technical assistance programs targeted to help small systems comply with drinking water regulations. This grant funds a Wisconsin Rural Water Association (WRWA) “Circuit Rider” program of on-site assistance visits to OTM and NN systems. Over 900 site visits are conducted annually. A priority system for selecting systems to receive WRWA Circuit Rider assistance visits is reviewed and revised annually based on sanitary survey deficiencies, regulatory cycles (e.g., vulnerability assessments, standard monitoring framework) and new regulations.

One-on-one Technical Assistance from DNR Staff (all public systems): DNR staff offer assistance to systems on a day-to-day basis to ensure that owners/operators understand the regulations. The DNR’s regional public drinking water staff provide technical assistance to owners and operators and conduct sanitary surveys of public water systems to ensure compliance with the primary drinking water regulations. State and local government staff continue to develop positive dialogues with owners and operators to help them understand the SDWA requirements and build capacity.

Based on feedback from DNR staff, one-on-one assistance appears to be a successful compliance mechanism in the State of Wisconsin, particularly in response to the small public drinking water systems that are not in compliance.

Operator Certification (MC, OTM, NN): A municipal waterworks operator certification program was in place prior to the SDWA amendments of 1996. A fully compliant program is currently in place. An OTM and NN water system operator certification program was developed after the adoption of the 1996 amendments and became effective on January 1, 2001. The certified operator requirement for these water system types was promulgated in Wisconsin Administrative Code Chapter NR 114.

To be an operator-in-charge one must be certified by the State of Wisconsin. Operators must meet base educational or experience requirements and pass a written exam to qualify for operator certification. If qualified, the operator is required to submit an application and exam fee. Prior to the examinations, training courses are offered with the ultimate goal of a high pass rate. Each certified operator also needs to renew his or her certificate every 3 years by submitting a renewal fee and providing proof of continuing education credits/hours; 18 hours for MC operators and 6 hours for OTM and NN operators. There are approximately 2,400 certified MC waterworks operators serving 613 municipal waterworks, and 1,160 non-municipal water system operators serving 1,316 OC and NN systems.

All OTM and NN systems had until March 2005 to designate a certified operator in charge of their system. After that date the DNR began initiating a stepped enforcement process on any system without a certified operator. This stepped enforcement process occurs when the data tracking system, an on-site inspection, or an investigation identifies a system without a certified operator. The DNR’s database tracks whether each system has a certified operator-in-charge and if the operator maintains his or her certification. The tracking system automatically generates a “preliminary” violation record if a system does not have at least one certified operator. DNR field

staff follow-up with the system on these preliminary violations and begin a stepped enforcement process against the system owner if a violation is verified.

Eleven systems (approximately 0.6%) were without certified operators at the time of the last triennial report to the governor (2008). As of June 30, 2011, there were also 11 systems (2 MC, 4 NN and 5 OTM) that did not have a certified operator (approximately 0.6%). All municipal systems have had certified operators at some point in the past as have the vast majority of the non-municipal systems.

The continuing education requirement for OTM and NN system operators is six hours per three year renewal cycle. The DNR requires that these operators attend WRWA courses designed specifically for small systems. WRWA is under contract to deliver approximately 55 three-hour courses annually that cover regulatory topics that DNR and WRWA field staff have identified as critical to maintaining compliance with drinking water regulations.

Certification is currently renewed for MC operators through the requirement of 18 hours of continuing education credits every 3 years. Municipal operators may take home-study courses, either correspondence or computer-based, to meet the continuing education requirement. California State University Sacramento (www.owp.csus.edu/courses.php), Technical Learning College (www.tlch20.com), CEU Plan (www.ceuplan.com), David H. Paul, Inc. (www.dhptraining.com), AWWA Online Institute (www.awwa.org), 360Water.com (www.360water.com), Montana Water Center (watercenter.montana.edu/training/default.htm) and Nicolet College/Kirkwood College (www.trainingmatrix.com/nicolet) all offer drinking water courses that are acceptable for Wisconsin CEC.

The DNR has a contract with Moraine Park Technical College (MPTC) to deliver a Water Quality Degree program at technical colleges throughout Wisconsin. These courses provide municipal waterworks operators the opportunity to earn continuing education credits while working towards an associate degree. The MPTC schedule also includes courses to help operators, and individuals seeking to become operators, prepare for certification subclass exams. Since the last triennial report, 69 courses have been offered to 649 people for a total of 933 credits earned.

Additional training and education comes in the form of information available on the DNR website. This information includes municipal waterworks subclass study guides, a PDF version of the "Small Water System Operator Certification Manual," an interactive, on-line small water system operator training program, certification exam information and application forms, and frequently asked questions.

New Activities

Data system improvements: The DNR is currently developing an internet based system for community public water systems to electronically submit required monthly operating reports. This data will then become part of the DWS. This system should improve the overall consistency and quality of these reports as well as make it easier for staff to access this data.

Additional training & workshops: The Capacity Development Coordinator, in conjunction with other staff, will continue to train contracted county personnel on the use of the electronic sanitary

survey tool for TN systems. A new user interface for county staff to more directly access the DWS is currently in development. The Coordinator is planning to hold training sessions for county inspectors on this new upgrade in early 2012, shortly after it becomes available. This upgrade to our existing survey tool will further facilitate the electronic storage of survey data.

Additional guidance: The DNR created a binder for OTM and NN systems to help them organize and maintain their important documents. These binders include, among other things, capacity development fact sheets, and tabs for system specific information like well construction reports, correspondence, source water assessments, monitoring schedules, and sample results. They are distributed to all OTM and NN systems (approximately 1,500) in the state during technical assistance visits from circuit riders.

The DNR is updating *An Operator's Handbook for Safe Drinking Water*, which was originally created in 1999. This pamphlet is intended to help owners and operators of OTM and NN systems develop, assess, and maintain a quality water supply by providing some basic information about the safe drinking water program and the responsibilities of system operators.

The DNR is also continuing to develop an internal guidance manual, *Public Water Supply Operations Handbook*, to create consistent and understandable guidance for state staff working in the public water supply section. This handbook includes guidance for staff on program areas that constitute the foundation of the Capacity Development Program strategy like sanitary surveys, operator certification, and capacity evaluations. This handbook will be especially useful in the coming years as institutional knowledge is lost due to retirement and new employees are hired. Many sections have now been completed and are available to staff on the program's intranet page.

2.3 Measuring Success & Reporting

On a regular basis, the DNR evaluates the success of its new systems capacity development efforts. The DNR tracks a number of drinking water programs to establish a baseline for measuring improvements in the capacity of Wisconsin's new public drinking water systems. The DNR used the following methods to measure and evaluate its progress:

Drinking Water System (DWS) database: The DWS stores compliance information for all public water systems in the state, as well as the capacity status of existing systems that have undergone a sanitary survey. The Capacity Development Coordinator also enters new system capacity evaluation data on the DWS. The coordinator tracks the compliance record of new systems through their first three years and annually reports this information to the EPA.

Communication with DNR staff: During the capacity evaluation process, the Capacity Development Coordinator communicates regularly with DNR water supply engineers, who review plans for new public water systems. The coordinator and plan reviewers work together to review and approve new public water systems.

DNR communication & education efforts: The Capacity Development Coordinator regularly distributes a fact sheet to educate new system owners and operators about capacity development. The *Financial Matters* fact sheet contains information about the financial responsibilities associated with owning and operating a public drinking water system. This fact sheet, along with

other fact sheets related to capacity development, is provided to system owners/operators prior to conducting capacity evaluations. Fact sheets and forms can be found on the Capacity Development website.

<http://www.dnr.state.wi.us/org/water/dwg/CapDev/CapDevIndex.htm>

The Capacity Development Coordinator works with staff to revise the Capacity Development section of the Bureau of Drinking Water and Groundwater web site. The web site is an important education tool for sharing capacity development information in an efficient manner statewide. The section is accessible from the bureau's home page:

<http://dnr.wi.gov/org/water/dwg/>

The web site includes the following capacity development information:

- General information/background;
- Fact sheets & brochures;
- New system strategy requirements;
- Capacity evaluation forms for new OTM and NN water systems;
- *Capacity Development Strategy for Existing Public Water Systems.*

These communication efforts provide additional documentation of the DNR's new systems capacity development implementation.

3.0 EFFICACY OF THE CAPACITY DEVELOPMENT STRATEGY

Wisconsin's Capacity Development Strategy document has been a good outline of the methods and resources available for assisting public drinking water systems to sustain technical, managerial, and financial capacity. The document has been a source of continuity in an environment that often has a variety of communication challenges due to policy changes, workload, and staff changes. The program is addressing these types of problems by offering public drinking water systems the tools and methods outlined in the strategy document.

The program continues to identify issues that public drinking water systems face, address them in an annual work plan, direct resources to the particular issue, coordinate solutions with stakeholder organizations, and report changes and outcomes to relevant parties. Issues are being identified in a number of ways, but DNR staff use information collected during the sanitary survey process as a primary resource for problem identification. The DNR's drinking water staff will continue to hold regular work group meetings with partner organizations to receive feedback on problems identified. Annual reports to EPA will continue to outline key issues the program intends to address and demonstrate how Wisconsin will be part of the national capacity development effort. Safe Drinking Water set-aside funds for capacity development as well as resources available through our partners are used to address the identified problems. The Capacity Development Coordinator, using a wide variety of tools as outlined in section 2.1 and 2.2, helps to coordinate solutions.

4.0 PROGRESS TOWARD IMPROVING THE TECHNICAL, MANAGERIAL, AND FINANCIAL CAPACITY OF PUBLIC WATER SYSTEMS

The Capacity Development Program has identified areas where improvements in technical, managerial, and financial capacity have been achieved. Some of these areas include:

- Process improvements and consistency of sanitary surveys inspections;
- Ability of public water system owners and operators to develop long-term financial goals, including those affecting staffing and infrastructure needs, that anticipate changes to new regulations;
- Improvements in water system security;
- The use of the DWS database to identify common issues and better target technical assistance.

A review of sanitary survey data consistency between regions, system types, and agencies (DNR, County) was performed in 2010. The ability to perform this analysis was made possible because of the steps that were taken in previous years to build the electronic sanitary survey tool in the DWS database. This information was used during program reviews with regional supervisors and discussed during a state-wide meeting of DNR public drinking water staff.

The *Financial Matters* fact sheet developed by the Capacity Development Program staff informs drinking water system owners and operators of their financial responsibilities associated with operating a public drinking water system. This document is distributed to OTM and NN water systems. It includes information on typical public drinking water system construction costs, water quality monitoring costs, operation and maintenance costs, tools to help meet financial responsibilities, and new and proposed regulations. The fact sheet has been helpful in informing owners of new systems about monitoring costs. This document was recently updated to reflect current monitoring costs and the new requirements of the Groundwater Rule.

New system evaluations have extended our guidance and review of new public drinking water systems to include smaller systems. This evaluation is intended to make owners of new systems aware of estimated monitoring costs, operations costs, emergency costs, and source water quality concerns in their area before the system is constructed. Most importantly, the evaluation gets the owner involved in the process of constructing a new system, which is sometimes overlooked amid the business of developing a new organization, housing development, or other facility.

Security of the state's public drinking water systems has been an increasing priority since 2001. The DNR has assisted systems in completing federal requirements for security vulnerability assessments and emergency response plan development. Sanitary surveys conducted by the DNR every 3 years help to ensure emergency response plans are current. Materials were developed to assist city officials to organize "neighborhood watch" programs to enlist their citizens in helping to protect water supply facilities. Emergency Response Sampling Kits and Reservoir Samplers were developed by an interagency workgroup and placed around the state to assist in sampling and analysis in the case of contamination of a water supply. The DNR continues to work with agencies and partners to

coordinate emergency preparedness at public drinking water supplies including table top exercises for emergency situations.

The DWS database has been a useful tool in identifying the most common problems found at public water systems and focusing technical assistance efforts. It may also be used as an assessment tool to determine the effectiveness of the technical assistance.

5.0 CONCLUSIONS

The Capacity Development Program for public drinking water systems is evolving. There are an extensive number of programs and activities performed by DNR and partner organizations that are all connected, but still remain available as independent tools. The program continues to develop an integrated system of identifying inadequacies, determining the best avenue to address problems, and creating solutions that will correct the problems.

The Capacity Development Program will continue to face challenges in the future. These challenges include implementation of new federal rules and regulations such as the Groundwater Rule and revised Total Coliform Rule, decreasing groundwater quality and quantity, and DNR staff turnover due to retirements. The program uses a proactive approach and has a wide variety of tools at its disposal. It will continue to focus on assisting public drinking water systems and presenting appropriate solutions.

For more information contact:

Adam DeWeese

Capacity Development Coordinator

101 S. Webster St.

Madison, WI 53707-7921

Phone: (608) 264-9229,

Email: Adam.DeWeese@wisconsin.gov

Capacity Development Program on the web:

<http://www.dnr.state.wi.us/org/water/dwg/CapDev1/CapDevIndex.htm>

6.0 DEFINITIONS

Community drinking water system: A public drinking water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. Any public water system serving 7 or more homes, 10 or more mobile homes, apartment units, or condominiums.

Drinking Water State Revolving Fund (DWSRF): Funds used to carry out directives of the Safe Drinking Water Act.

Municipal drinking water system (MC): A community water system owned by a city, village, county, town, town sanitary district, utility district, public inland lake and rehabilitation district, municipal water district or a federal, state, county or municipal owned institution for congregate care or correction, or a privately owned water utility serving the foregoing.

Noncommunity drinking water system: A public drinking water system that is not a community water system.

Nontransient noncommunity (NN) drinking water system: A drinking water system that regularly serves at least 25 of the same people over 6 months of the year. Examples include drinking water systems at schools, day care centers, and factories.

Other-Than-Municipal (OTM) drinking water system: A community drinking water system that is not owned by a municipality. Examples include drinking water systems at mobile home parks, apartment buildings, and condominium associations.

Public drinking water system: A system for the provision to the public of piped water for human consumption through pipes or other constructed conveyances, if the system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a “community water system” or a “non–community water system.”

Transient noncommunity (TN) drinking water system: A drinking water system that serves at least 25 people at least 60 days of the year but does not serve the same 25 people over 6 months of the year. Examples include drinking water systems at restaurants, motels, taverns, parks, and campgrounds.

Safe Drinking Water Act (SDWA): An Environmental Protection Agency act that seeks to ensure drinking water systems in the U.S. provide safe drinking water.

Sanitary Survey: An in-depth investigation of a drinking water system performed by DNR staff aimed to evaluate the adequacy of the water source, facilities, equipment, reporting, operation and maintenance, and operator training.

Water system: All structures, conduits and appurtenances by means of which water is delivered to consumers except piping and fixtures inside buildings served, and service pipes from building to street main.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

This publication is available in alternative format for visually impaired persons. Please contact Adam DeWeese at (608) 264-9229 to request an alternative format.



Bureau of Drinking Water and Groundwater

PUB-DG-071 2011